

Appendix C: System configuration utility

The System Configuration Utility (SCU) configures ISA, EISA, PnPISA, and PCI computer systems.

EISA systems and adapter cards are more complex and flexible than ISA designs. PnPISA and PCI systems have registers on their cards which contain pertinent resources information. The SCU was designed to automate the configuration process for all of these systems, to maintain system parameters, and to store those parameters in nonvolatile RAM. Since the SCU assigns all system resources, there are no conflicts between adapter cards.

You must execute the SCU every time ISA or EISA adapter cards are physically added, removed, or moved in your system. Running SCU is optional for PnPISA and PCI adapter cards.

The SCU operates on information provided by the configuration files, configuration registers on PCI and PnPISA cards, and NVRAM in the system memory.

Configuring your system with SCU

In order to run the SCU, you must reboot your system using the SCU diskette.

Procedure C-1 **Running SCU**

- 1 Boot the Application Processor from a floppy drive using DOS 6.22 or higher.
- 2 Put the SCU diskette into the floppy drive.
- 3 Assure the write protection is turned off the SCU diskette.

- 4 Run SCU by entering the following command:

`a:\scu <Enter>.`

The SCU title screen appears.

- 5 Press the enter key to access the main menu.

- 6 Select "Step 3: Change Configuration Settings", and press <Enter>.

- 7 Press the <ESC> key to skip the Admin Password screen.

The following message will appear:

Virtual memory files will be stored in diskette.

- 8 Press <Enter>..

The following menu appears:

System Board

PCI Undefined Device

PCI Ethernet Device

PCI VGA Device

PCI SCSI Device

- 9 Select "System Board" and press <Enter>.

- 10 Scroll to "LCD Subsystem Group" using the page down key.

- 11 Select "LCD Display String Before OS Boot" and press <Enter>.

When "String to Display:" comes up type the following:

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- 12 Assure all values match those in **Table C-2, "SCU configurable features," on page C-5.**

- 13 Press <ESC> when done to exit from the settings screen

The "Change Configuration Settings" screen appears.

- 14 Select "PCI SCSI Device" and press <Enter>.

- 15 Select "Enabled: Automatic configuration" and press <Enter>.

- 16 Change the parameter to "Enabled: Manual configuration" and press <Enter>.

- 17 Press <F6> for the configuration menu.
- 18 Change IRQ to "11" and press <Enter>.
- 19 Press <ESC> to exit "Edit Setting for: PCI SCSI Device" screen.
The "Change Configuration Settings" screen appears.
- 20 Follow steps 21 through 26 if you are using a PCI Ethernet adapter.
- 21 Select "PCI Ethernet Device" and press <Enter>.
- 22 Select "Enabled: Automatic configuration" and press <Enter>.
- 23 Change the parameter to "Enabled: Manual configuration" and press <Enter>.
- 24 Press <F6> for the configuration menu.
- 25 Change IRQ to "10" and press <Enter>.
- 26 Press <ESC> to exit "Edit Setting for: PCI Ethernet Device" screen.
The "Change Configuration Settings" screen appears.
- 27 Select "PCI VGA Device" and press <Enter>.
- 28 Select "Enabled: Automatic configuration" and press <Enter>.
- 29 Change this parameter to "Enabled: Manual configuration" and press <Enter>.
- 30 Press <F6> to return to the configuration menu.
- 31 Change IRQ to "9" and press <Enter>.
- 32 Press <ESC> to exit back to the "System Configuration Utility".
- 33 Press <ESC> once more to get back to the main menu.
- 34 Check to verify your settings.
- 35 Select "Step 4: Save Configuration" and press <Enter>. This will save the CFG file to the floppy disk and store the settings in the CMOS
- 36 Select "Step 6: Exit" and press <Enter>. to exit.
You will be asked to confirm the exit.
- 37 Press <F10> to reboot. Assure that the SCU diskette is out of the drive and the MS-DOS boot disk is back in the drive.

You must now run the SCSI Select Utility.

Procedure C-2
Running the SCSI select utility

- 1** Boot with a DOS 6.22 or higher version system diskette from a floppy drive.
- 2** Insert the "System Configuration Utility" diskette in the floppy drive.
- 3** Enter the following command to run SCU:
`a:\7870cfg <Enter>.`
- 4** Select "Configure/View Host Adapter Settings" and press <Enter>.
- 5** Select "SCSI Device Configuration" and press <Enter>.
- 6** Assure the settings match those in [Table C-1](#).

Table C-1
SCSI device settings

SCSI Device ID	0	1
Initiate Sync Negotiation	Yes	Yes
Maximum Sync Transfer Rate	8	8
Enable Disconnection	Yes	Yes
Initiate Wide Negotiation	Yes	Yes
Send Start Unit Command	Yes	Yes
Include in BIOS Scan	Yes	Yes

- 7** Press <ESC> twice to save changes ,and select "Yes" to save changes followed by <Enter>.
- 8** Press <ESC>, and select "Yes" to exit followed by <Enter>.

SCU configurable features

Table C-2 shows all of the SCU configurable features. Default values are shown in bold type.

Table C-2
SCU configurable features

Configuration feature	Selection options	Notes
System Identification String	None	Configured by User or System Integrator using the ROM-based or disk-based configuration utility.
Configuration and Overlay Version	N/A	Display only, the version of the SCU.
BIOS Version String	N/A	Display only.
MP Spec Version	N/A	Display only.
System Processors and Status	N/A	Display only for CPU 1 and CPU 2.
Power-On Speed	Fast / Slow	BIOS programs the SLOWH timer before boot.
..	Shadowing ROM	..
Shadowing at C0000	Enable / Disable	..
Shadowing at C4000	Enable / Disable	..
Shadowing at C8000	Enable / Disable	..
Shadowing at CC000	Enable / Disable	..

Table C-2
SCU configurable features (Continued)

Configuration feature	Selection options	Notes
Shadowing at D0000	Enable / Disable	..
Shadowing at D4000	Enable / Disable	..
Shadowing at D8000	Enable / Disable	..
Shadowing at DC000	Enable / Disable	..
Shadowing at E0000	Enable / Disable	..
Shadowing at E4000	Enable / Disable	..
..	Memory Subsystem	..
Base Memory Option	512 / 640 KB	..
Total System Memory	32 Mbyte WB(No 1Mbyte Hole) / 32 NC(No 1MB Hole) / 31 WB(With 1MB Hole) / 31 NC(With 1MB Hole)	..
..	Peripheral Configuration	..
Automatic Configuration	Enable / Disable	..
..	On-Board Disk Controller	..

Table C-2
SCU configurable features (Continued)

Configuration feature	Selection options	Notes
On-Board Floppy Controller	Enable / Disable	..
On-Board IDE Controller	Enable / Disable	..
..	On-Board Communication Devices	..
Serial Port 1 Configuration	COM4 2E8-3 / COM2 2F8-3 / COM3 3E8-4 / COM1 3F8-4 / Disable	..
Serial Port 2 Configuration	COM4 2E8-3 / COM2 2F8-3 / COM3 3E8-4 / COM1 3F8-4 / Disable	
Parallel Port Configuration	LPT2 278-5 / LPT1 378-7 / LPT3 3BC-7 / Disable	..
Parallel Port Mode	ISA / PS-2 / Ext / No DMA / DMA 3 / DMA 5 / DMA 6	..
..	Floppy Subsystem	..
Floppy Drive A Options	1.44 / 360 / 1.2 / 720 / 2.88 / Disable	..

Table C-2
SCU configurable features (Continued)

Configuration feature	Selection options	Notes
Floppy Drive B Options	1.44 / 360 / 1.2 / 720 / 2.88 / Disable	..
..	IDE Subsystem	..
ISA IDE DMA Transfers	Auto / Disable	..
IDE Auto Configuration Drive C/D/E/F	Auto / Customize / Drive Not Detected	..
Multi-Sector Transfer Selection Drive C/D/E/F	Auto / 4 sectors / 8 sectors / Disable	..
Translation Mode	CHS / LBA / ExtCHS / Auto	..
Fast Programmed I/O Modes	Auto / Disable	..
..	Language	..
Language Support Group	US / FR / GR / SP / IT	..
..	KB / Mouse Subsystem	..
NumLock Options	On at Boot / Off at Boot	..
Typematic Speed	Auto / Slow / Medium / Fast	..
Mouse Control Option	Mouse Auto Detected	Using Phoenix Keyboard Controller.

Table C-2
SCU configurable features (Continued)

Configuration feature	Selection options	Notes
..	Console Redirection	..
Select COM port for Redirection	Disable / COM1 / COM2	..
Serial Port Baud Rate	2400 / 9600 / 19.2 k / 115.2 k	..
Hardware Flow Control	None / CTS-RTS / CTS-RTS & Xoff/Xon	..
Select Terminal Type	ANSI	..
..	Security Subsystem	..
Administrative Password	Set / Not Set	..
User Password	Set / Not Set	..
Hot-key Option	Enable / Disable	Prompted for key to combine with Ctrl-Alt-key.
Secure Boot Mode	Enable / Disable	Boot Without Keyboard, no error message will be displayed.
Enable Video Blanking	Enable / Disable	..
Set Lockout Timer	Timeout, 1-127 (10 min), Disabled	Keyboard inactivity.
Floppy Writes	Enable / Disable	..
..	Boot Subsystem	..

Table C-2
SCU configurable features (Continued)

Configuration feature	Selection options	Notes
Boot Sequence	A: then C: , C: then A:, C: only, A: only	..
Display Message During POST	Enable / Disable	..
Require User Interaction on POST Errors	Enable / Disable	..
..	SCSI ROM BIOS Options	..

Table C-2
SCU configurable features (Continued)

Configuration feature	Selection options	Notes
SCSI-A ROM BIOS Scan	Enable / Disable	..
..	LCD Subsystem	..
LCD Display String	Enable / Disable	..
LCD Display String Before OS Boot	(user-defined string or default)	Default is "N x PID Speed System Ready" where N= number of processors. PID is processor ID string, and Speed is the processor in MHz.
..	Management Subsystem	..
Voltage Limit Control Default	Default / Customize	..
A/D Channel Enable Switch	Default / Customize	..
Speaker Option	Enable / Disable	..
Scanning User Flash Area	Enable / Disable	..
End		

